REMARKS

This application has been carefully reviewed in light of the Office Action dated February 15, 2006. Reconsideration and favorable action in this case are respectfully requested.

Applicants note with appreciation that the Examiner has allowed claims 8-11 and claims 2-6, 12-13 and 15-16 would be allowable if rewritten in independent form and if the double patenting rejections were overcome.

The Examiner has rejected claims 1-7 and 12-16 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 U.S. Pat. No. 6,684,280 to Chauvel et al (hereinafter the '280 patent), in view of U.S. Pat. No. 6,430,640 Lim (hereinafter the Lim patent). Applicants have reviewed these references in detail and do not believe that they disclose or make obvious the invention as claimed.

The Examiner has rejected claims 1 and 7 under 35 U.S.C. §102(e) as being unpatentable over U.S. Pat. No. 6,430,640 to Lim. Applicants have reviewed this reference in detail and do not believe that it discloses or makes obvious the invention as claimed.

The Examiner has rejected claim 14 under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 6,430,640 to Lim in view of U.S. Pat. No. 5,263,163 to Holt. Applicants have reviewed these references in detail and do not believe that they disclose or make obvious the invention as claimed.

In the last Office Action, the Examiner requested any known reference that would qualify as prior art. The undersigned queried the inventors for any additional prior art and they responded that none was known. The attorney who wrote the application and responded to the first Office Action is no longer employed by the Assignee. The

undersigned has been primarily responsible for this case since his departure. The undersigned knows of no prior art that would be relevant to the examination of this case.

With regard to the double-patenting rejection, Applicants continue to disagree with the Examiner's contention, which, at a minimum, is contrary to the spirit of judicially-created double patenting. The present invention arbitrates memory accesses to a shared device by using the higher of *two* priority values *associated* with each of the access requests. Claims 17 and 18, upon which the Examiner relies, show nothing more than a single priority associated with a memory access request.

Claim 17 states:

> 17. A method for prioritizing access to a shared resource in a digital system having a plurality of devices vying for access to the shared resource, comprising the steps of:
>
> establishing a respective software priority state associated with a respective program module on each of the plurality of devices;
>
> executing an instruction from each of the respective program modules on the plurality of devices to form a plurality of access requests to the shared resource;
>
> providing a respective access priority value with each of the plurality of access requests that is responsive to the respective software priority state of the respective program module; and
>
> arbitrating for access to the shared resource by using the respective access priority values provided with the plurality of access requests.

Claim 18 states:

> 18. The method of claim 17, in which the program module is a task and wherein the step of establishing a software priority state comprises the steps of defining a task priority *for the task* and setting the software priority state in accordance with the task priority. [emphasis added]

The Examiner states that the '280 patent arbitrates two priority values associated with each single access request, referencing the access priority in claim 17 and the task priority in claim 18. The claims of the '280 patent are clear. In claim 17, a single priority value per access request is provided, and access to the shared resource is arbitrated using this value from each competing request. The single priority value associated with each request is responsive to the software priority state of the program module issuing the access request. Claim 18 does *not* add another priority value associated with the access request. In claim 18 a task priority is defined *for the task* (not for the memory access) and the software priority state is set in accordance with the task priority. Hence, reading claim 18 in conjunction with claim 17 leads to only one interpretation: a task priority is defined *for the task*, a software priority state is set in accordance with the task priority, and the priority value for an access request from the task is defined in response to the software priority state. This results in a single priority value for the access request, responsive to the software priority state, which is set responsive to the task priority. In other words, there is a single priority value per access request, where the priority value is based (indirectly through the software priority state) on a task priority.

The Examiner relies on Lim for showing both (1) arbitrating for access to the shared device by using a higher of the two priority values associated with each single access request and (2) associating two priority values along with each access request from each device (as an alternative to the teaching of '280 patent claims). The merits of Lim will be discussed below; however, using Lim as a reference for two elements not shown in '280 is clearly improper. In this case, the only element supported by the '280 reference is "initiating an access request by each of the plurality of devices". Since this element, or a very similar element would be used in any claim for "prioritizing access to a shared resource in a digital system having a plurality of devices", the Examiner has thus decided that any patent for prioritizing access to a shared resource is subject to a double patenting rejection if a colorable claim for novelty or obviousness can be made. This is clearly not

the intent of the double patenting doctrine, which was established to prevent a party from receiving two patents on the same invention. In this case, the invention of the '280 patent can clearly be practiced without infringing the claims of the present invention (for example, by associating a single priority value with each memory access request) and the claims of the present invention can be practiced without infringing the claims of the '280 patent (for example, by using priority values that are not responsive to a software priority state).

Applicants therefore respectfully request that the double patenting rejection be withdrawn.

With regard to the novelty rejection of claim 1, Applicants maintain their contention that Lim does not show the step of "arbitrating for access to the shared device by using a higher of the two priority values associated with each single access request". The Examiner claims that Lim discloses two priority values: (1) the priority value and (2) the appended processor ID. For purposes of this argument, Applicants will accept the position that the processor ID constitutes a second priority value. The Examiner appears to contend, however, that since the two priority values of Lim are used together to determine which memory access has the highest priority, the elements of claim 1 are shown.

The "arbitrating" element of claim 1 is clear; the arbitration for access to the shared device is performed using the higher of the two priority values associated with each single access request. Thus (assuming that a larger number represents a higher priority value), a memory request with associated priority values (10,5) has a higher priority than a memory request with priority values (9,9) and a lower priority than a memory request with priority values (1,11). On the other hand, in Lim, a memory request with (priority,processor ID) of (10,5) has a higher priority than a memory request of (9,9)

and also has a higher priority than a memory request of (1,11). Thus, Lim leads to significantly different results than the present invention.

In Lim, the higher of the priority value and the processor ID for a single access request is not relevant. The priority value is always used for arbitration, whether it is higher or lower than the processor ID, unless there is a tie. If there is a tie, it is broken by the processor IDs of the tied memory access request, without regard to whether or not the processor ID is higher or lower than the associated priority value. Thus, in Lim, a memory access of (15, 3) will beat a memory access of (15,2), even though both processor IDs are less than the priority value. A memory access of (5, 1) will beat a memory access of (4, 20), since the processor ID has no relevance unless there is a tie between priority values.

The Examiner's comments that Lim shows a process similar to the given application at pages 15-17, paragraphs 30-34, is not relevant because (1) Applicants stated in their Response that paragraphs [30]-[34] are directed to a different embodiment, (2) the Examiner is improperly comparing two *specifications*, rather than the *claims* of the present application with the teachings of prior art specifications and (3) "similar" is not a proper criteria for a section 102 rejection.

The Examiner appears correct that the table on page 9 of the previous Response is in error at column 5, row 3.

Accordingly, Applicant believes claim 1 is allowable over the prior art.

With regard to claim 7, Applicant believes that this claims is also allowable over the prior art for reasons set forth in connection with claim 1; further, this claim includes circuitry for providing two separate *variable* priority values. The processor ID in Lim is not variable.

Claim 14 is dependent upon claim 1 and is therefore allowable for the reasons set forth in connection with claim 1.

An extension of one month is requested and a Request for Extension of Time under § 1.136 with the appropriate fee is attached hereto.

The Commissioner is hereby authorized to charge any fees or credit any overpayment, including extension fees, to Deposit Account No. 20-0668 of Texas Instruments Incorporated.

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Alan W. Lintel, Applicants' Attorney at (972) 664-9595 so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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